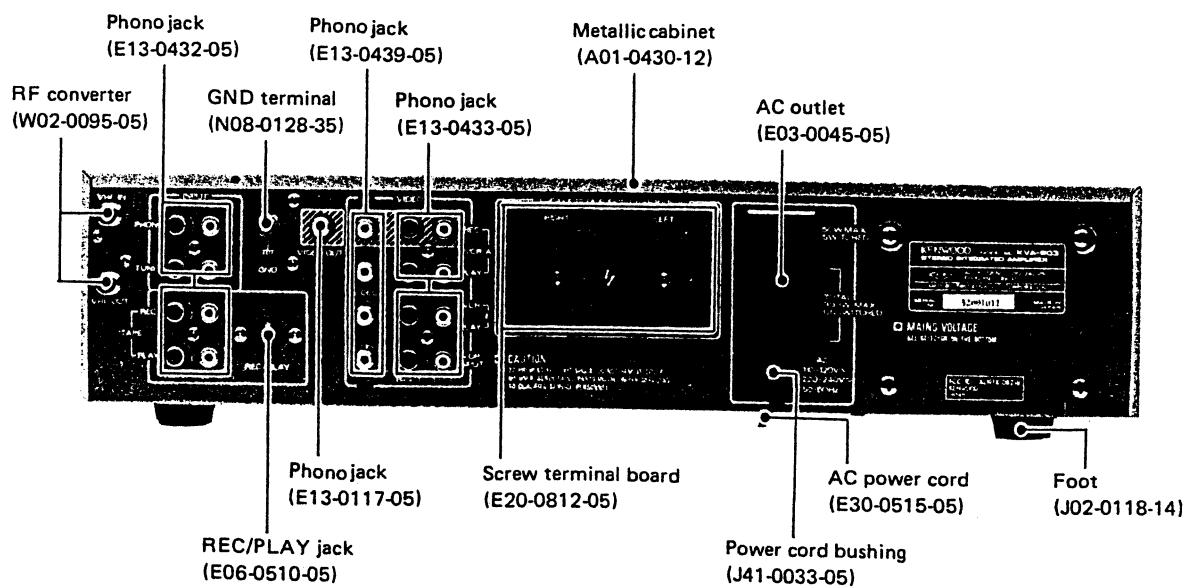
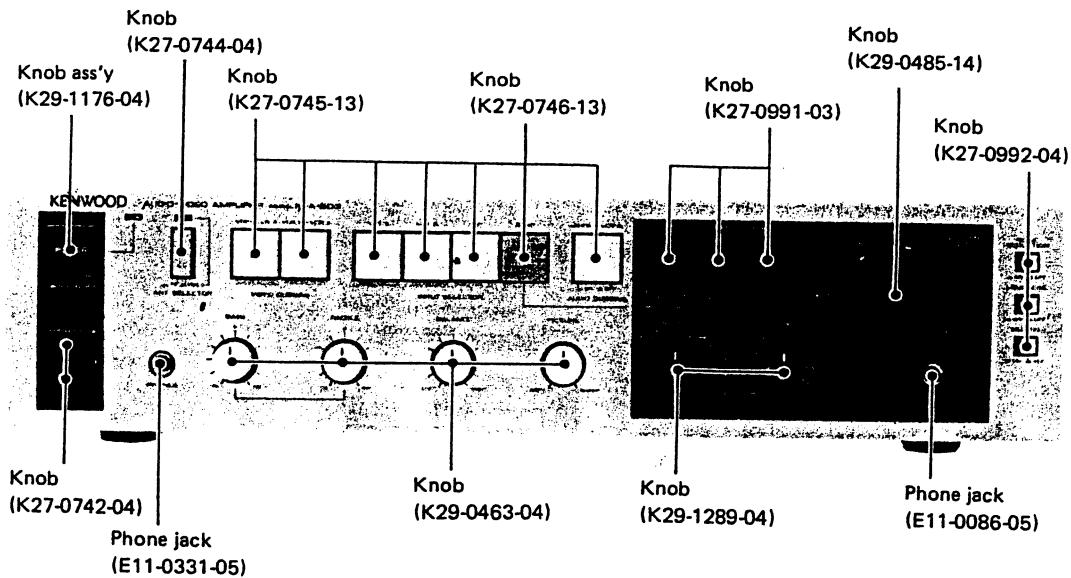


SERVICE MANUAL

KENWOOD

KVA-503

AUDIO-VIDEO AMPLIFIER



ADJUSTMENT/REGLAGE/ABGLEICH

BIAS CURRENT ADJUSTMENT (IDLE)

1. Turn the volume knob fully counterclockwise.
2. Connect a DC voltmeter to both pins of R29 (R30) of the AUDIO AMP (X09-1800-83). (See the figure below.)
3. Turn the power on and wait 5 minutes.
4. Adjust VR5 (VR6) so that the DC voltmeter reads 18 ~ 22 mV

Note:

Since a heat pipe is used in the heat radiator of the KVA-503, be sure that the unit is level when making the adjustment.

VORSPANNUNGSSTROMEINSTELLUNG (IDLE)

1. Den Lautstärkeregler ganz nach links drehen.
2. Einen Gleichspannungsmesser an beide Stifte von R29 (R30) des AUDIO AMPES (X09-1800-83) anschließen. (Siehe nachstehende Zeichnung.)
3. Die Stromversorgung einschalten und 5 Minuten warten.
4. VR5 (VR6) so einstellen, daß der Gleichstrommesser 18 ~ 22 mV anzeigt.

Hinweis:

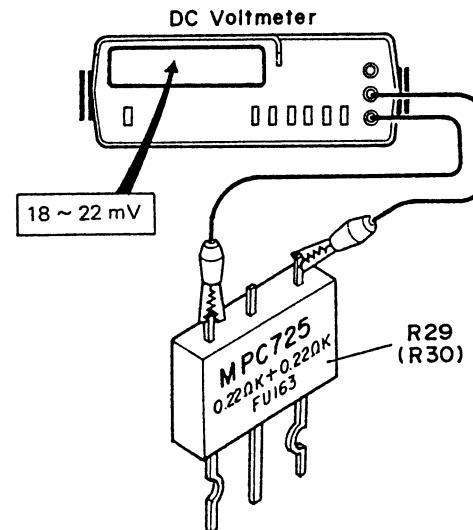
Da im Wärmestrahler des KVA-503 eine Heat Pipe verwendet wird, Sollte man beim Einstellen unbedingt auf waagerechte Stellung des Gerätes achten.

RÉGLAGE DU COURANT DE POLARISATION (IDLE)

1. Tourner le réglage du volume à fond de course vers la gauche.
2. Relier un voltmètre pour courant continu aux deux broches du R29 (R30) de AUDIO AMP (X09-1800-83). (Se reporter à l'illustration ci-dessous.)
3. Mettre le circuit sous tension et attendre cinq minutes.
4. Régler le VR5 (VR6) de façon que le voltmètre indique 18 à 22 mV.

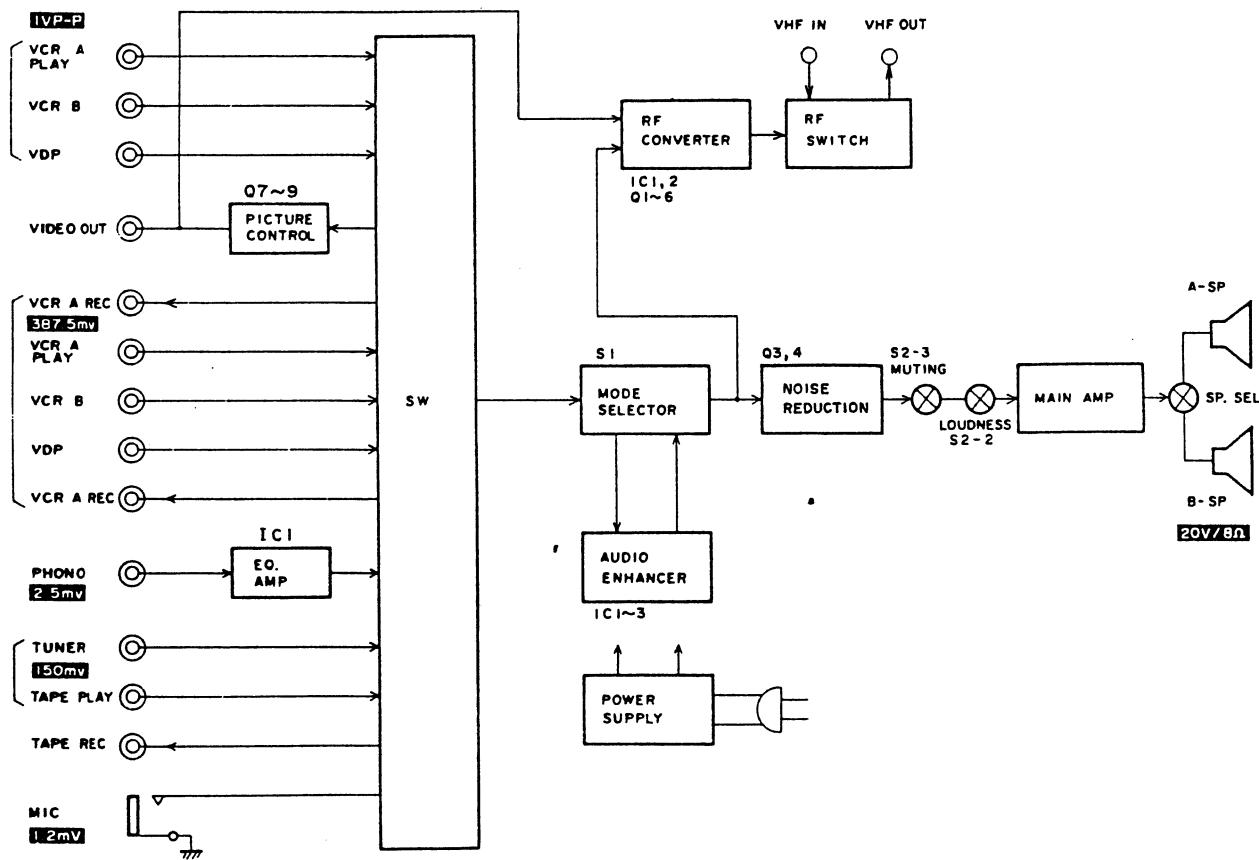
Remarque:

Etant donné qu'une conduite de chaleur est incluse dans le radiateur du KVA-503, s'assurer que l'appareil repose sur une surface plane avant de procéder au réglage.



BLOCK DIAGRAM

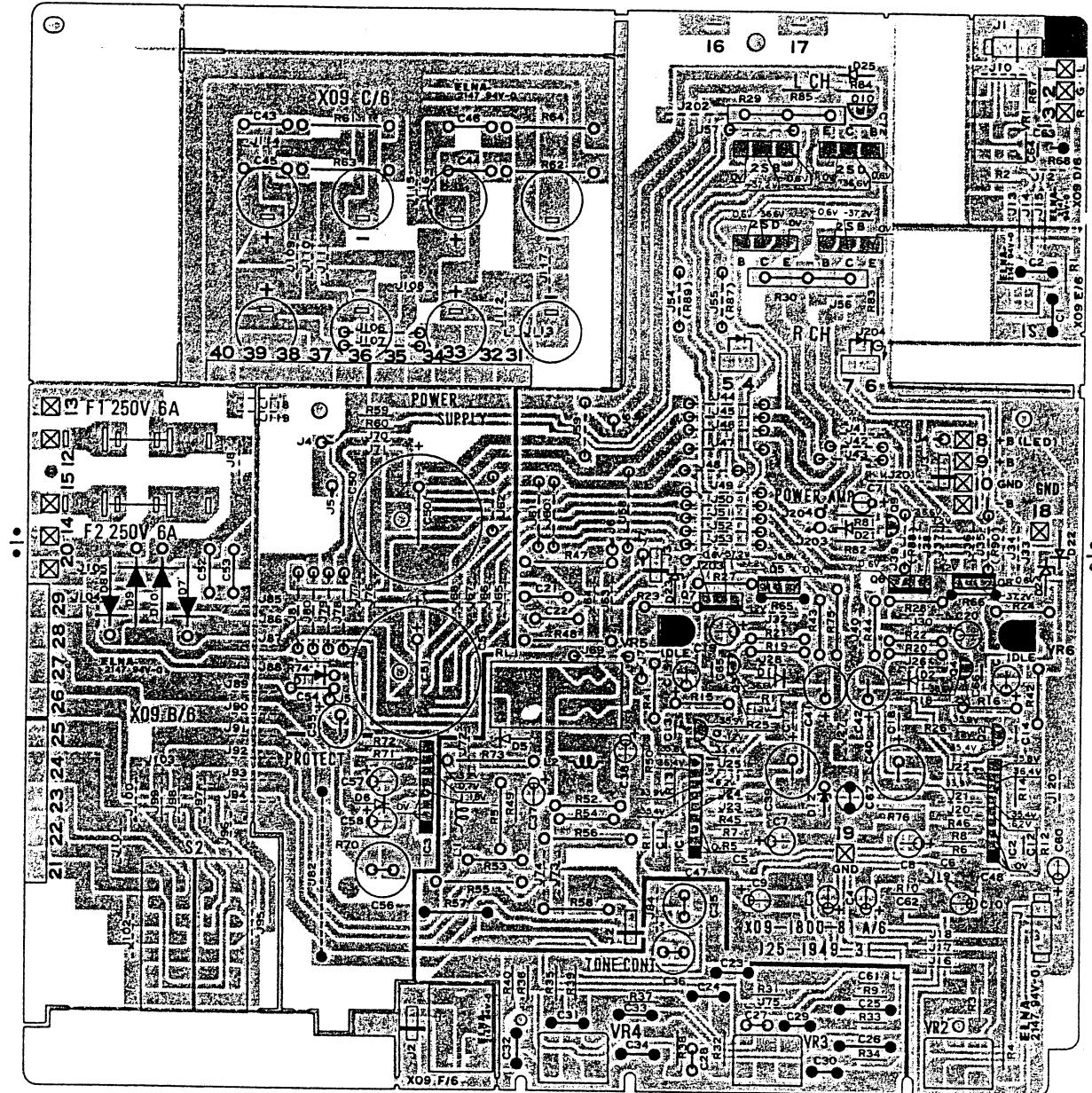
BLOCK DIAGRAM



VA-503

PC BOARD

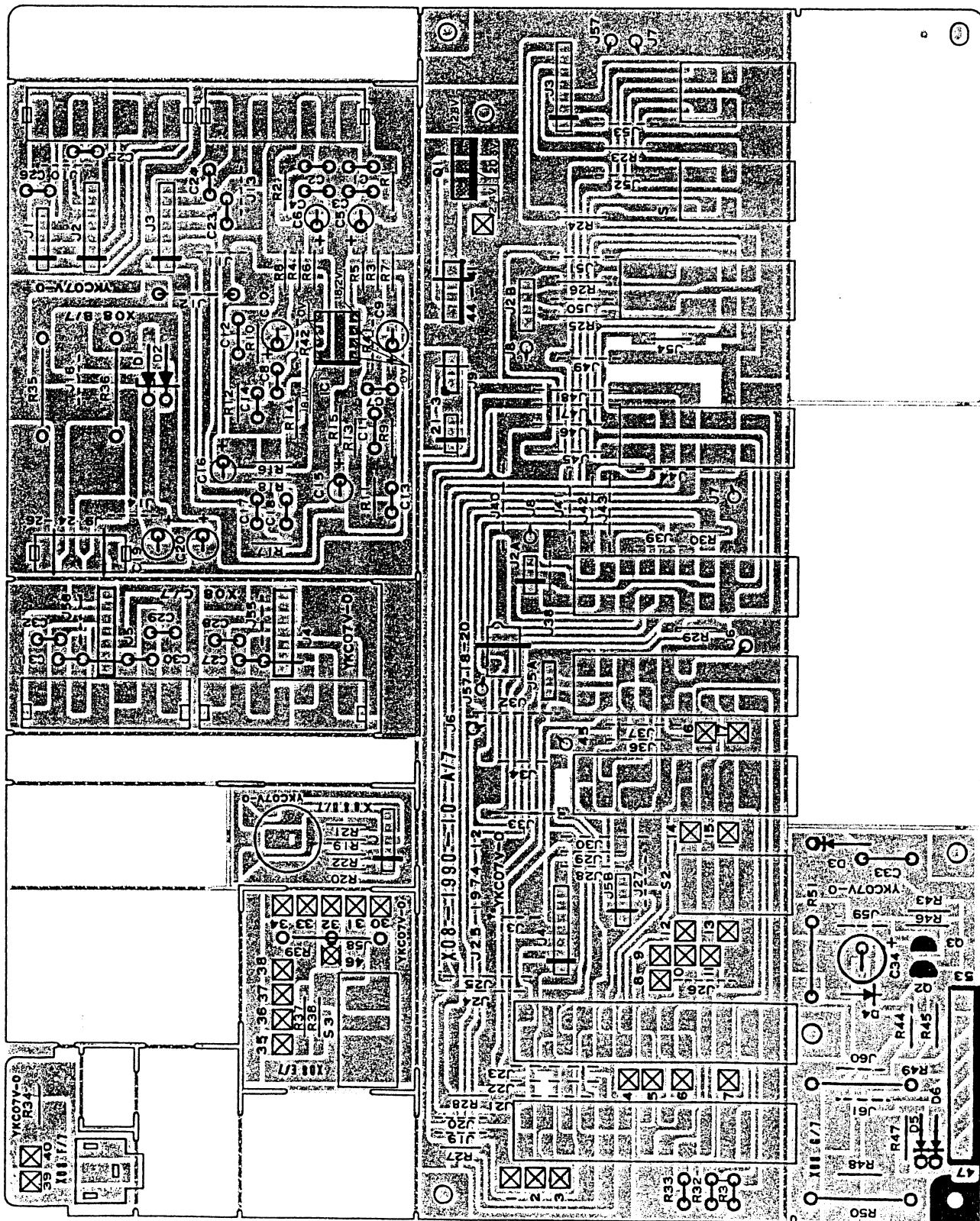
MAIN AMP (X09-1800-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors. The pc board drawing is viewing from the side easy to check.

PC BOARD

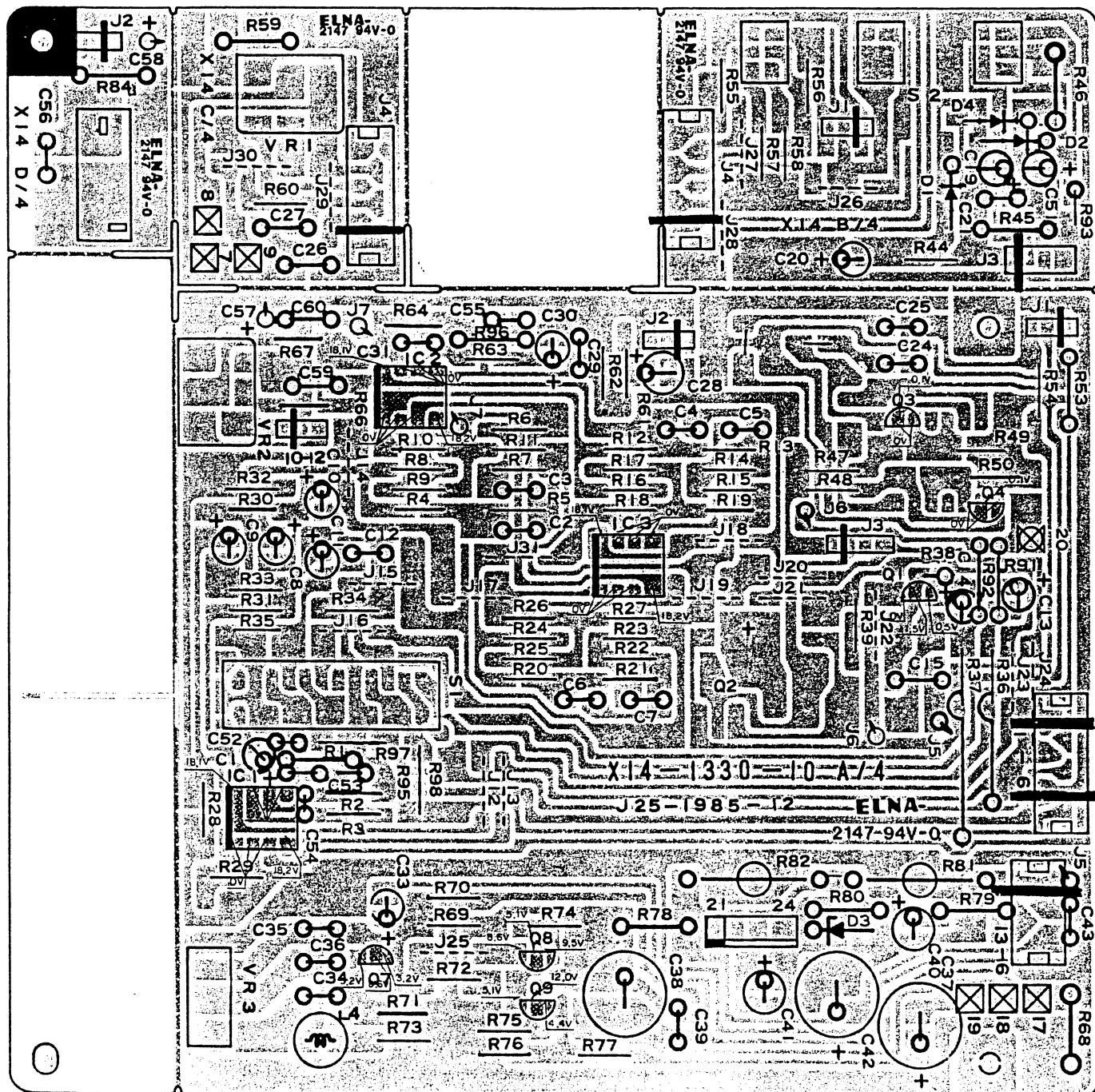
CONTROL (X08-1990-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors. The PC board drawing is viewing from the side easy to check.

PC BOARD

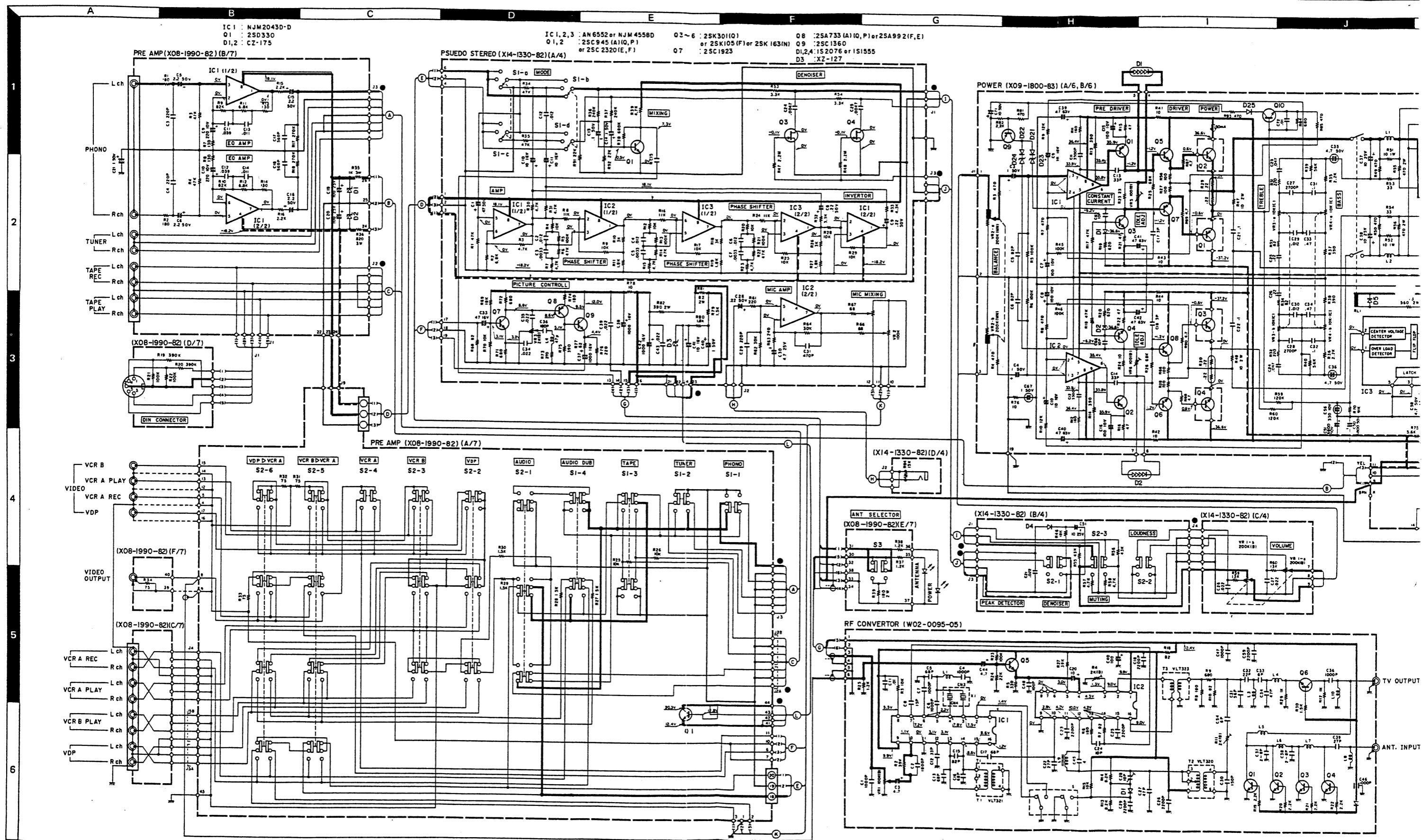
PSEUDO STEREO (X14-1330-82) Component side view



Refer to the schematic diagram for the values of resistors and capacitors. The pc board drawing is viewing from the side easy to check.

KENWOOD

AUDIO-VIDEO AMPLIFIER



2SA1733
2SA992
2SC1360
2SC1923
2SC2320
2SC945

2SA1110
2SA899
2SC2590

2SD330

2SA1227
2SC2987

2SK105
2SK163

NJM2043D-D
NJM4558D

AN7060

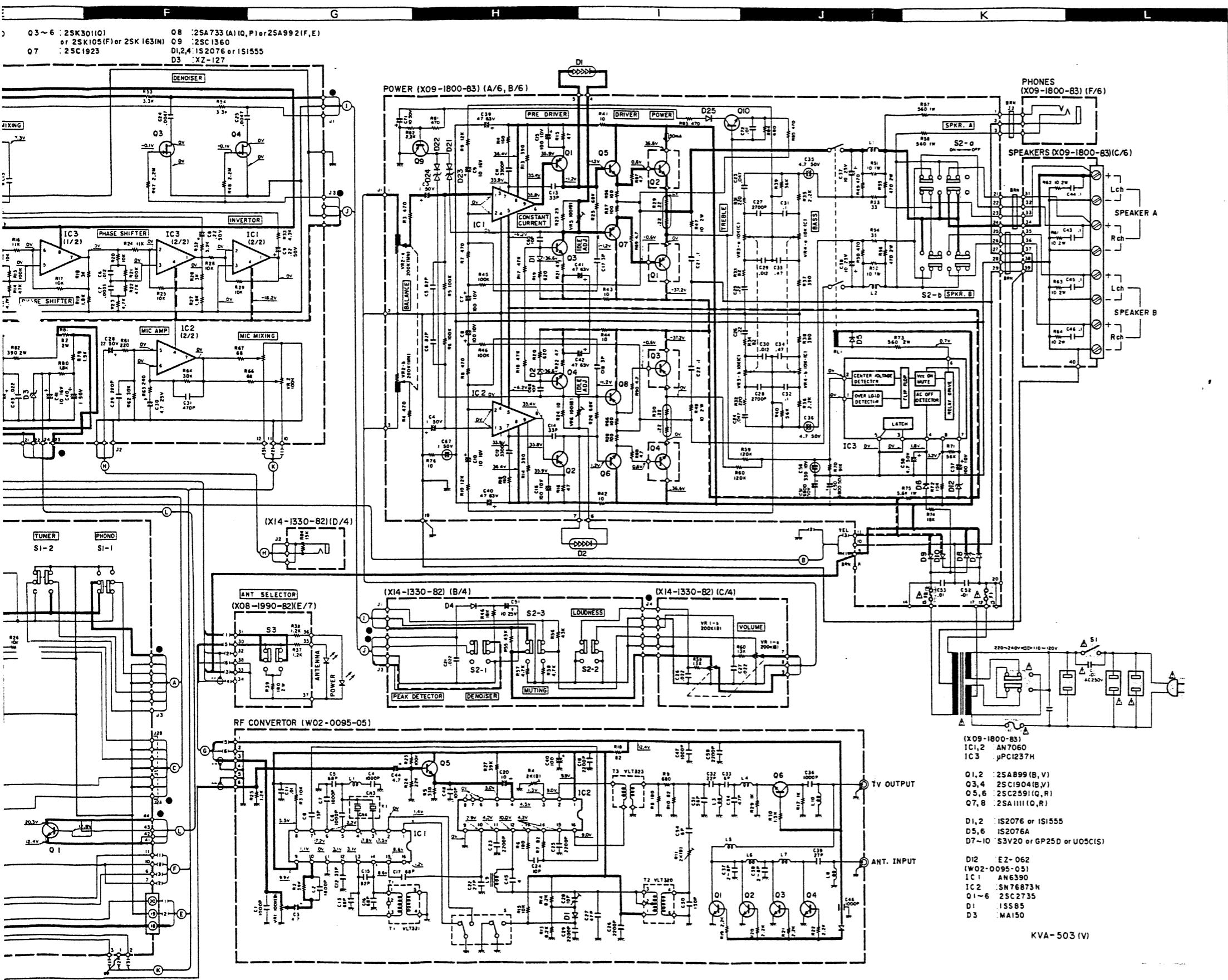
μPC1237H

AN6552

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec mètre à haute impédance sans signal d'ent. valeurs peuvent différer légèrement du fait c. tions inhérentes aux appareils et aux instru. mesure individuels.

AUDIO-VIDEO AMPLIFIER



AN7060

μPC1237H

AN6552

DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

SPECIFICATIONS

65 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion.

Dynamic power at 8 ohms	230W
Total harmonic distortion (20 Hz to 20,000 Hz)	0.05%
TUNER input to SPEAKER output	0.05% at rated power into 8 ohms
Intermodulation distortion (60 Hz : 7 kHz = 4 : 1)	0.03% at rated power into 8 ohms
Damping factor (SPEAKER A)	300 at 100 Hz, 8Ω
Frequency response	8 Hz to 80 kHz, -3 dB
Speaker impedance	Accept 4 ohms to 16 ohms
Input sensitivity/impedance	Phono 2.5 mV/47 kohms Tuner 150 mV/47 kohms Tape 200 mV/47 kohms Mic 1.2 mV/10 kohms
Signal to noise ratio (IHF, A)	81 dB for 2.5 mV input
Tone control	Bass ± 10 dB at 100 Hz Treble ± 10 dB at 10 kHz
Loudness control	+10 dB at 100 Hz (at -30 dB VOLUME Level)
VIDEO	Video input sensitivity/impedance VCR A, VCR B, VDP 1.0V pp/75 ohms unbalanced
Output level/impedance	Tape REC (Pin) 150 mV/2 kohms
Frequency response for phono	RIAA standard curve ± 0.3 dB (30 Hz to 20 kHz)
Power consumption	380W
A.C. outlet	Switched 1, Unswitched 2
Dimensions	W 440 mm (17-5/16") H 109 mm (4-9/32") D 336 mm (13-7/32")
Net weight	8.1 kg (17.8 lb)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers in U.S.A.

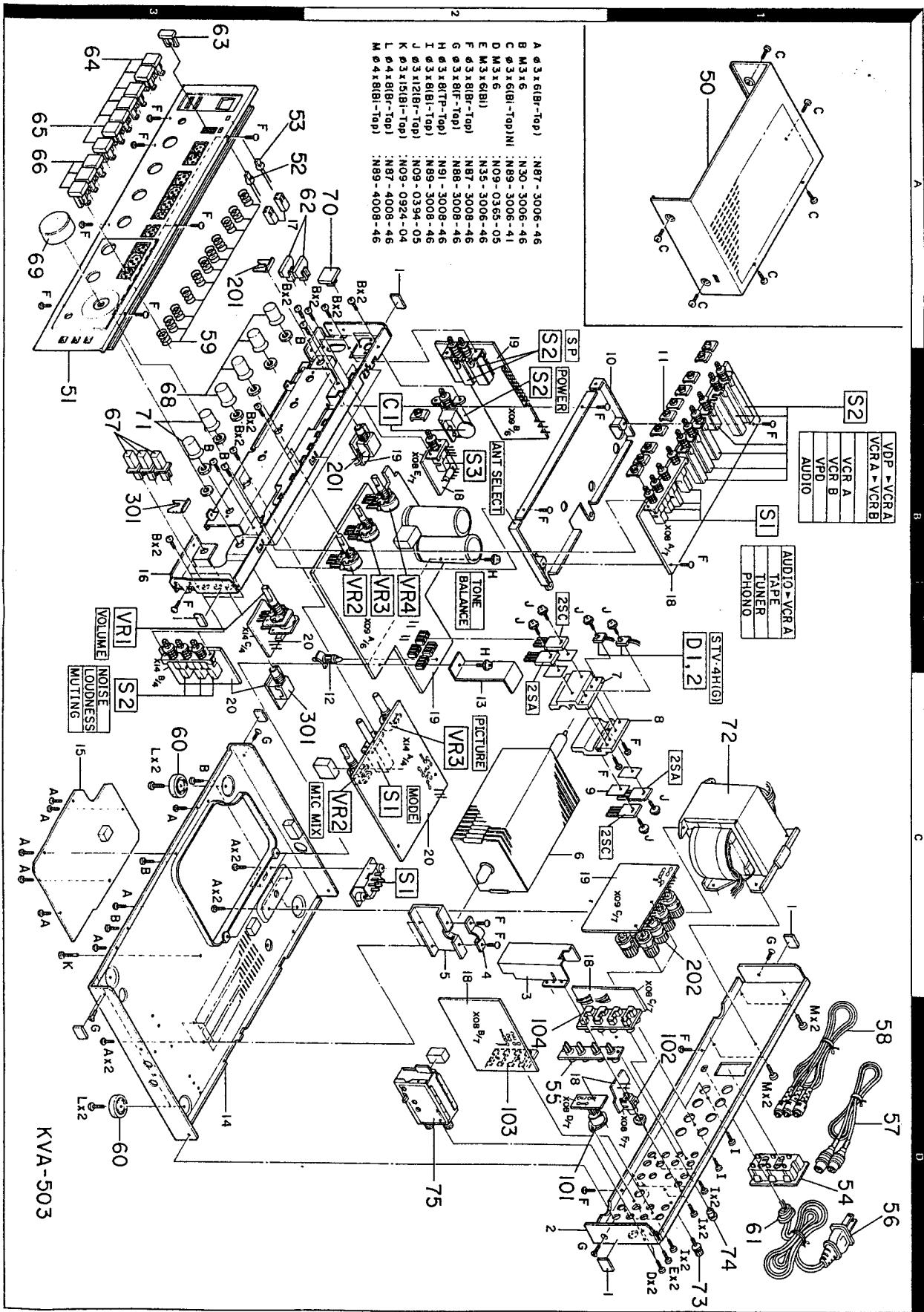
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).  Indicates safety critical components. To

reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

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Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規 格				Desti- nation 仕 向	Re- marks 備考
C13 ,14 C17 ,18			CD93M1H113J CK45B1H561K	MYLAR CERAMIC	0.011UF 560PF		J K		
101 102 103 104	2D 1D 2D 2D	*	E06-0510-05 E13-0117-05 E13-0432-05 E13-0433-05	REC/PLAY JACK PHONE JACK PHONE JACK PHONE JACK					
R35 R36 R39		*	RS14GB3F102J RS14GB3F21J RS14GB3D181J	FL-PRQNF RS FL-PRQNF RS FL-PRQNF RS	1K 820 180		J J J	3F 3F 3D	
S1 S2 S3	1B 1B 2B	*	S42-4022-05 S42-6012-05 S40-2146-05	MULTI. PUSH SW(AUDIO SELECTOR) MULTI. PUSH SW(VIDEO SELECTOR) PUSH SWITCH (ANT SELECTOR)					
D1 ,2 IC1 01		*	RD18F(B2) NJM2043D-D 2SD330	ZENER DIODE IC TRANSISTOR					

AUDIO (X09-1800-82)

C3 ,4 C5 ,6 C11 ,12 C13 ,14 C17 ,18		*	CEO4AW1H010M CC45SL1H820J CK45B1H332K CC45SL1H330J CC45SL1H030C	LL-ELEC CERAMIC CERAMIC CERAMIC CERAMIC	1UF 82PF 0.0033UF 33PF 3PF		50WV		
C21 ,22 C23 ,24 C25 ,26 C27 ,28 C29 ,30			CD93M1H104K CD93M1H473J CD93M1H224J CD93M1H272J CD93M1H123J	MYLAR MYLAR MYLAR MYLAR MYLAR	0.1UF 0.047UF 0.22UF 0.0027UF 0.012UF		J J J J J		
C31 ,32 C33 ,34 C35 ,36 C43 ,46 C50 ,51		*	C91-0608-05 C91-0609-05 CEO4BW1H4R7M CD93M1H104K C90-0538-05	MF MF NP-ELEC MYLAR ELECTRN	0.1UF 0.47UF 4.7UF 0.1UF 7500UF		50WV 50WV		
C52 ,53 C56 C58 C65 ,66 C67		*	CK45E2H103P CEO4BW1A331M CEO4W1H4R7M CC45SL1H100D CEO4BW1H010M	CERAMIC NP-ELEC ELECTRN CERAMIC NP-ELEC	0.01UF 330UF 4.7UF 10PF 1UF		P 10WV 50WV D 50WV		
C72			CK45F1H103Z	CERAMIC	0.01UF		Z		
201 202	3A,2B 1C		E11-0331-05 E20-0812-05	PHONE JACK SCREW TERMINAL BOARD(SPEAKERS)					
△ F17 ,2 - L1 ,2			F05-6021-05 J13-0041-05 L39-0085-05	FUSE FUSE CLIP PHASE-COMPENSATION COIL					
R15 ,16 R19 ,20 R21 ,22 R23 ,24 R27 ,28			RD14GB2E470J RD14GB2E621J RD14GB2E470J RD14GB2E270J RD14GB2E101J	FL-PRQNF RD FL-PRQNF RD FL-PRQNF RD FL-PRQNF RD FL-PRQNF RD	47 620 47 27 100		J J J J J	2E 2E 2E 2E 2E	
R29 ,30 R41 ,44 R47 ,48			R90-0187-05 RD14GB2E100J RS14GB3D100JMA	MULTI-COMP FL-PRQNF RD FL-PRQNF RS	0.22X2 10 10		K J J	3H 2E 3D	

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R51 ,52			RS14GB3A100JMA	FL-PROOF RS 10		J	3A		
R53 ,54			RD14GB2E330J	FL-PROOF RD 33		J	2E		
R55 ,56			RS14GB3D471JMA	FL-PROOF RS 470		J	3D		
R57 ,58			RS14GB3A561JMA	FL-PROOF RS 560		J	3A		
R61 -64			RS14GB3D100JMA	FL-PROOF RS 10		J	3D		
R65 ,66			RD14GB2E101J	FL-PROOF RD 100		J	2E		
R73			RS14GB3D561JMA	FL-PROOF RS 560		J	3D		
R75			RS14GB3A562JMA	FL-PROOF RS 5.6K		J	3A		
R87 -90	2B	*	RD14GB2H4R7J	FL-PROOF RD 4.7		J	2H		
VR2			RD6-5086-05	POTENTIOMETER 200K (BALANCE)					
VR3 ,4	2B	*	RD6-3040-05	POTENTIOMETER 10K (TONE)					
VR5 ,6			R12-0077-05	TRIMMING POT. 100 (BIAS)					
RL1			S51-4040-05	MAGNETIC RELAY					
S2	2B	*	S42-2068-05	MULTIPLE PUSH SW (SPEAKERS)					
D1 ,2			1S1555	DIODE					
D1 ,2			1S2076	DIODE					
D5 ,6			1S2076A	DIODE					
D7 -10			GP25DL	DIODE					
D7 -10			S3V20	DIODE					
D7 -10		*	U05C(S)	DIODE					
D12			RD6.2J(B2)	ZENER DIODE					
D21 ,22			1S2076A	DIODE					
D23 ,24			RD24E(B4)	ZENER DIODE					
D25			1S2076A	DIODE					
IC1 ,2		*	AN7060	IC					
IC3			UPC1237H	IC					
Q1 ,2			2SA899(B,V)	TRANSISTOR					
Q3 ,4			2SC1904(B,V)	TRANSISTOR					
Q5 ,6			2SC2590(Q,R)	TRANSISTOR					
Q7 ,8			2SA1110(Q,R)	TRANSISTOR					
Q9			2SA733(A)(Q,P)	TRANSISTOR					
Q10			2SC945(A)(Q,P)	TRANSISTOR					

PSEUDO STEREO (X14-1330-82)

C2		CQ93M1H123K	MYLAR	0.012UF	K				
C3		CQ93M1H332K	MYLAR	0.0033UF	K				
C4		CQ93M1H123K	MYLAR	0.012UF	K				
C5		CQ93M1H332K	MYLAR	0.0033UF	K				
C6		CQ93M1H123K	MYLAR	0.012UF	K				
C7		CQ93M1H332K	MYLAR	0.0033UF	K				
C12		CQ93M1H123K	MYLAR	0.012UF	K				
C15		C91-0609-05	MF	0.47UF	J				
C24 ,25		CQ93M1H472K	MYLAR	0.0047UF	K				
C26 ,27		CQ93M1H223K	MYLAR	0.022UF	K				
C28		CE04AW1HR22M	LL-ELEC	0.22UF	50WV				
C29		CC45SL1H221J	CERAMIC	220PF	J				
C31		CK45B1H471K	CERAMIC	470PF	K				
C34 ,35		CK45F1H223Z	CERAMIC	0.022UF	Z				
C36		CC45SL1H181J	CERAMIC	180PF	J				
C39		CK45F1H223Z	CERAMIC	0.022UF	Z				
C43		CK45F1H223Z	CERAMIC	0.022UF	Z				
301	3B, 2C	E11-0086-05	PHONE JACK						
L4		*	L40-4705-25	SMALL FIXED INDUCTOR					

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KVA-503 (UNIT)						
50	1A		A01-0430-12	METALLIC CABINET		
51	3B	*	A20-3539-03	PANEL ASSY		
-			B46-0094-03	WARRANTY CARD		
-			B46-0095-03	WARRANTY CARD		
-		*	B50-4770-00	INSTRUCTION MANUAL		
-			B59-0092-00	SERVICE DIRECTORY		
52	2A		B30-0201-05	LED		
53	2A		B30-0378-05	LED		
△ 54	2B		C91-0023-05	CERAMIC CAPACITOR 0.01UF X 500VAC250V		
△ 55	1D		E03-0045-05	AC OUTLET		
56	2D		E13-0439-05	PHONE JACK		
△ 57	1D		E30-0515-05	AC POWER CORD		
58	1D		E30-0714-15	CORD WITH PLUG		
			E30-0734-05	AUDIO CORD(BUILT-IN RESISTOR)		
59	3B		G01-0434-04	COMPRESSION SPRING		
-		*	H01-4795-04	ITEM CARTON CASE		
-			H10-1602-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-1603-12	POLYSTYRENE FOAMED FIXTURE		
-			H12-0090-04	PACKING FIXTURE		
-			H20-0452-04	PROTECTION COVER		
-			H21-0609-04	PROTECTION SHEET		
-			H25-0078-04	PROTECTION BAG		
60	3C, 3D		J02-0118-14	FOOT		
△ 61	1D		J41-0033-05	POWER CORD BUSHING		
62	2A		K27-0742-04	KNOB (BUTTON)	SPEAKERS	
63	3A		K27-0744-04	KNOB (BUTTON)	ANTENNA	
64	3A		K27-0745-13	KNOB (BUTTON)	SQUARE, SILVER	
65	3A		K27-0746-13	KNOB (BUTTON)	SQUARE, ORG	
66	3A	*	K27-0991-03	KNOB (BUTTON)	SQUARE, BLK	
67	3B	*	K27-0992-04	KNOB (BUTTON)	MUTE, LOUD, NOISE	
68	3B		K29-0463-04	KNOB	TONE, BAL, PIC	
69	3A		K29-0485-14	KNOB	VOLUME	
70	2A		K29-1176-04	KNOB ASSY	POWER	
71	3B	*	K29-1289-04	KNOB	MODE, MIC	
△ 72	1C	*	L01-3135-05	POWER TRANSFORMER		
73	1D		N08-0128-35	BINDING POST	(GND)	
74	1D		N29-0053-05	PUSH RIVET		
△ 75	2C		S31-2053-05	SLIDE SWITCH (POWER TYPE)		
△ 76	2B		S40-1022-05	PUSH SWITCH (POWER TYPE)		
D1 , 2	1B		STV-4H(G)	VARISTOR		
Q1 , 3	1C, 2C	*	2SA1227(R,0)	TRANSISTOR		
Q2 , 4	2B, 2C	*	2SC2987(R,0)	TRANSISTOR		
75	2D		W02-0095-05	RF CONVERTER		
PRE AMP (X08-1990-82)						
C3 , 4			CC45SL1H221J	CERAMIC	220PF	J
C5 , 6			CEO4AW1H2R2M	LL-ELEC	2.2UF	50WV
C11 , 12			CC93M1H393J	MYLAR	0.039UF	J

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R78		*	RD14GB2E100J	FL-PR00F RD 10 J 2E		
R79		*	RD14GB2E152J	FL-PR00F RD 1.5K J 2E		
R80		*	RD14GB2E182J	FL-PR00F RD 1.8K J 2E		
R81			RS14GB3D820J	FL-PR00F RS 82 J 3D		
R82			RS14GB3D391J	FL-PR00F RS 390 J 3D		
VR1	3B	*	RD6-5083-05	POTENTIOMETER 200K(VOLUME)		
VR2	2C	*	RD6-5082-05	POTENTIOMETER 100K(MIC MIX)		
VR3	2C	*	RD1-1017-05	POTENTIOMETER 2K(PICTURE)		
S1	2C	*	S29-4011-15	ROTARY SLIDE SWITCH (MODE)		
S2	3C	*	S42-3054-05	MULTIPLE PUSH SW(MUTE,LOUD)		
D3			RD13E(B2)	ZENER DIODE		
D4			1S1555	DIODE		
D4			1S2076	DIODE		
IC1 -3			AN6552	IC		
IC1 -3			NJM4558D	IC		
Q1			2SC2320(E,F)	TRANSISTOR		
Q1			2SC945(A)(Q,P)	TRANSISTOR		
Q3 ,4			2SK105(F)	FET		
Q3 ,4			2SK163(N)	FET		
Q7			2SC1923	TRANSISTOR		
Q8			2SA733(A)(Q,P)	TRANSISTOR		
Q8			2SA992(F,E)	TRANSISTOR		
Q9		*	2SC1360	TRANSISTOR		

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